PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

I

n re the application of:

Attorney Docket No.: 2267.841US03

Charles W. Extrand

Confirmation No.: 2262

Application No.:

10/662,979

Examiner: Robert W. Hodge

Filed:

September 15, 2003

Group Art Unit: 1745

For:

FUEL CELL WITH ULTRAPHOBIC SURFACES

INFORMATION DISCLOSURE STATEMENT

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Pursuant to 37 C.F.R. § 1.56, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached Form PTO-1449. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Action or Notice of Allowance.

This application was filed after June 30, 2003; therefore, copies of cited U.S. patents and U.S. published applications are not included.

Respectfully submitted.

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of

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	Application Number	10/662,979				
	Filing Date	September 15, 2003				
	First Named Inventor	Charles W. Extrand				
	Art Unit	2262				
	Examiner Name	Robert W. Hodge				
	Attorney Docket Number	2267.841US03				

U.S. PATENT DOCUMENTS

EXAMINER INITIAL*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	
	l	Number-Kind Code ^{2 (if known)}	\neg		
		US-6,783,882 B2	08/31/2004	Jeffrey A. Schmidt	
		US-6,660,363 B1	12/09/2003	Wilhelm Barthlott	
		US-6,623,882 B2	09/23/2003	Jefferson Yang	
		US-6,605,379 B1	08/12/2003	Robert Angelo Mercuri et al.	
	<u> </u>	US-6,541,389 B1	04/01/2003	Akira Kubo et al.	
	i	US-6,530,554 B2	03/11/2003	Katsuhide Shimmo et al.	
	i	US-6,518,168 B1	02/11/2003	Paul G. Clem et al.	
		US-6,455,021 B1	09/24/2002	Yahachi Saito	
	i	US-6,444,254 B1	09/03/2002	Ashutosh Chilkoti et al.	
	i	US-6,432,866 B1	08/13/2002	Howard Tennent et al.	
		US-6,423,372 B1	07/23/2002	Jan Genzer et al.	
	1	US-6,403,388 B1	07/11/2002	Jeffrey D. Birdsley et al.	
	i	US-6,312,303 B1	11/06/2001	Zvi Yaniv et al.	
		US-6,299,981 B1	10/09/2001	Marie-Jose Azzopardi et al.	
	i	US-5,900,160	05/04/1999	George M. Whitesides et al.	
		US-5,725,788	03/10/1998	George N. Maracas et al.	
		US-5,679,460	10/21/1997	Josephus M. Schakenraad et al.	
		US-5,674,592	10/07/1997	John C. Clark et al.	
		US-5,609,907	03/11/1997	Michael Natan	
		US-5,252,835	10/12/1993	Charles M. Leiber et al.	
		US-2002/0047822 A1	03/13/2003	Masahiro Hori et al.	
		US-2002/0150684 A1	10/17/2002	Ahalapitiya H. Jayatissa	
		US-2002/0136683 A1	09/26/2002	Richard E. Smalley et al.	
		US-2002/0122765 A1	09/05/2002	Kazunaga Horiuchi et al.	
		US-2002/0114949 A1	08/22/2002	Christopher A. Bower et al.	
		US-2002/0034879 A1	03/21/2002	Wenbing Yun et al.	
		US-2002/0025374 A1	02/28/2002	Yun Hi Lee et al.	
EXAMINER SIGNATURE	•		DATE CONSIDERED		

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Sheet	2		of	7	Attorney Docket Number	2267.841US03		
			FC	REIGN PAT	ENT DOCUMENTS	<u> </u>		
EXAMINER INITIAL*			Foreign Patent untry Code ³ Num (if knov	ber ⁴ Kind Code ⁵	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	T ⁶	
		WO (02/084340 A		10/24/2002	Ming-Hsien Wu et al.		
			01/92179 A1		12/06/2001	Karsten Reihs et al.		
			01/94034 A1		12/13/2001	Dieter Scharnweber et al.		
		WO (00/39368		07/06/2000	Karsten Reihs et al.		
		WO (00/38845		07/06/2000	Karsten Reihs et al.		
		WO (01/79142 A1		10/25/2001	Peter Furniss et al.		
		CA 2	356178 A1		07/06/2000	Karsten Reihs et al.		
			NON P.	ATENT LITE	ERATURE DOCUM	ENTS		
EXAMINER INITIAL*	Cite No. ¹			journal, serial, sy		ticle (when appropriate), title of the te, page(s), volume-issue number(s), ablished	T ²	
:		Leng				Effects of Topography 23, 2000, vol. 16, no. 20, pp.		
				TRE et al C	ontact Angle Hystere	esis II. Contact Angle		
	ROBERT H. DETTRE et al., <u>Contact Angle Hysteresis II. Contact Angle Measurements on Rough Surfaces</u> , <u>Advances in Chemistry Series</u> , March 22, 1963, pp. 136-144							
					ity of Porous Surface	es, June 19, 1944, pp. 546-	,	
						ption on sculpted solid 86-989		
1200		substrates, Nature, October 26, 2000, vol. 407, pp. 986-989 R.G. COX, The spreading of a liquid on a rough surface, J. Fluid Mech., 1983, vol. 131, pp. 1-26						
		G. MCHALE et al., <u>Analysis of Shape Distortions in Sessile Drops</u> , <i>Langmuir</i> , 2001, vol. 17, pp. 6995-6998						
		A. ES	SZTERMAN ican Physica	N et al., <u>Tripl</u>		Rough Substrates, The 8, no. 5, pp. 55702/1-		
		1		etting and Spr 978, pp. 321-	_	ets of Surface Roughness,		
	H. KAMUSEWITZ et al., The relation between Young's equilibrium contact angle and the hysteresis on rough paraffin was surfaces, Elsevier Science B. V. 1999, pp. 271-279							
		J.F. OLIVER et al., <u>Liquid spreading on rough metal surfaces</u> , <i>Journal of Materials Science</i> , 1980, vol. 15, pp. 431-437						
		JAM	ES E. SMAY	et al., Colloi		Assembly of 3-D Periodic		
EXAMINER SIGNATURE					DATE CONSIDERED			

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			NON P	ATENT LITE	ERATU	RE DOCUME	NTS		
EXAMINER INITIAL*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published							
		DAR	RON E. HIL	L et al., Func	tionaliz	ation of Carbor	n Nanotubes with		
		Polys	styrene, Maci	romolecules, Z	2002, vo	ol. 35, pp. 9466	5-9471		
		1					Wenzel's Modification of		
						_	a Theory of Hysteresis,		
		Journal of American Chemical Society, October 20, 1952, vol. 74, pp. 5041-5042							
		ERD	AL BAYRA	MLI et al., <u>Te</u>	ensiome	tric studies on	wetting. I. Some effects of		
			ce roughness 954-1961	(theoretical),	Canadi	ian Journal of	Chemistry, 1981, vol. 59,		
		1	•	Influence of S vol. 15, pp. 87			Wetting Dynamics,	•	
		······					iquids on Finely-Grooved		
		Solid	Surfaces-A	SEM Study, (ience Publishers Ltd.,		
		1977, vol. 8, pp. 223-234 A.J.G. ALLAN et al., Wettability of Perfluorocarbon Polymer Films: Effect of							
		Roughness, Journal of Polymer Science, 1959, vol. XXXIX, pp. 1-8							
-		J.B. SWEENEY et al., Equilibrium Thin Films on Rough Surfaces. 1. Capillary							
	!			_		3, vol. 9, pp. 15			
							bic Surfaces: Some		
	:	Com	ments and Ex	camples, Lang	gmuir, 1	999, vol. 15, pj	p. 3395-3399		
		Comments and Examples, Langmuir, 1999, vol. 15, pp. 3395-3399 JEFFREY P. YOUNGBLOOD et al., Ultrahyrophobic Polymer Surfaces							
		Prepared by Simultaneous Ablation of Polypropylene and Sputtering of							
		Poly(tetrafluoroethylene) Using Radio Frequency Plasma, Macromolecules,							
		+	, vol. 32, pp.						
		JOANNA AIZENBERG et al., <u>Direct Fabrication of Large Micropatterned</u> Single Crystals, SCIENCE, vol. 299, February 21, 2003, pp. 1205-1208 J.D. EICK et al., <u>Thermodynamics of Contact Angles</u> , Journal of Colloid and Interface Science, November 1975, vol. 53, no. 2, pp. 235-248							
		F.Y.H. LIN et al., <u>Effect of Surface Roughness on the Dependence of Contact</u> <u>Angles on Drop Size</u> , <i>Journal of Colloid and Interface Science</i> , 1993, vol. 159, pp. 86-59							
		+ ^ -		V et al., Conta	ect Angl	es on Heteroge	neous Surfaces: A New		
		PETER S. SWAIN et al., <u>Contact Angles on Heterogeneous Surfaces: A New Look at Cassie's and Wenzel's Laws</u> , <u>Langmuir</u> , 1998, vol. 14, pp. 6772-6780							
		1					of Super-Water-Repellent		
		AI ₂ O ₃ Coating Films with High Transparency by the Sol-Gel Method,							
		Communications of the American Ceramic Society, 1997, vol. 80, no. 12, pp. 3213-3216							
EXAMINER SIGNATURE						DATE CONSIDERED			

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		NON PATENT LITERATURE DOCUMENTS							
EXAMINER INITIAL*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published							
		KIYOHARU TADANAGA et al., Super-Water-Repellent Al ₂ O ₃ Coating Films							
		with High Transparency, Communications of the American Ceramic Society, 1997, vol. 80, no. 4, pp. 1040-1042							
		SHUHONG LI et al., Super-Hydrophobicity of Large-Area Honeycomb-Like							
		Aligned Carbon Nanotubes, Journal of Physical Chemistry, 2002, vol. 106, no. 36, pp. 9274-9276							
		J. KIJLSTRA et al., Roughness and topology of ultra-hydrophobic surfaces,							
		Elsevier Science B.V., 2002, vol. 206, pp. 521-529							
		MASAHIDE TANIGUCHI et al., Effect of Undulations on Surface Energy: A							
		Quantitive Assessment, Langmuir, 2001, vol.17, pp. 4312-4315							
		DAVID QUÉRÉ, <u>Surface Chemistry Fakir droplets</u> , <i>News & Views</i> , 2002, pp. 14-15							
		MASAHIDE TANIGUCHI et al., Correcting for Surface Roughness: Advancing							
		and Receding Contact Angles, Langmuir, 2002, vol. 18, pp. 6465-6467							
		M. THIEME et al., Generation of Ultrahydrophobic Properties of Aluminuim –							
		A First Step to Self-cleaning Transparently Coated Metal Surfaces, Advanced							
		Engin. Mater., Internet, 2001, vol. 9, pp. 1							
		ZEN YOSHIMITSU et al., Effects of Surface Structure on the Hydrophobicity							
	:	and Sliding Behavior of Water Droplets, Langmuir, 2002, vol. 18, 5818-5822							
		DAVID S. SOANE et al., <i>Fluorsight</i> , Brennan Research Group, January 2003, p. 15							
		J.J. BIKERMAN, Sliding of Drops From Surfaces of Different Roughness, pp. 349-359							
		A.B.D. CASSIE, Contact Angles, Wool Industries Research Association, January 27, 1948, pp. 11-16							
		EUN HEE CIRLIN et al., Roughness and Anisotropy Effects on wettability of Polytetrafluoreothylene and Sodium-treated Polytetrafluoroethylene, Journal of Polymer Science, 1973, vol. 11, pp. 785-799							
		PULP AND PAPER RESEARCH INSTITUTE OF CANADA, <u>Liquid</u> Spreading: Edge Effect for Zero Contact Angle, Journal of Colloid and Interface Science, August 1978, vol. 66, no. 1, pp. 200-202							
		ROBERT N. WENZEL, Resistance of Solid Surfaces to Wetting by Water, Industrial and Engineering Chemistry, August 1936, vol. 28, no.8, pp. 988-994							
EXAMINER SIGNATURE		DATE CONSIDERED							

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		WILL H. COGHILL et al., Why Water Over-Fills a Tumbler, Scientific American Supplement, July 27, 1918, vol. 86, no. 2221, pp. 52-53							
		R.D. SCHULZE et al., Young's equilibrium contact angle on rough solid							
		surfaces. Part I. An empirical determination, J. Adhesion Sci. Technol., 1989, vol. 3, no. 1, pp. 39-48							
		J.F. OLIVER et al., An Experimental Study of Some Effects of Solid Surface Roughness on Wetting, Colloids and Surfaces, 1980, vol. 1, pp. 79-104							
		KIYOHARU TADANAGA et al., Superhydrophobic-Superhydrophilic							
		Micropatterning on Flowerlike Alumina Coating Film by the Sol-Gel Method, American Chemical Society, 2000, vol. 12, pp. 590-592							
		S. HERMINGHAUS, <u>Roughness-induces non-wetting</u> , <i>Europhysics Letters</i> , October 15, 2000, vol. 52, pp. 165-170							
		J. BICO et al., Rough wetting, Europhysics Letters, July 15, 2001 vol. 55, pp. 214-220							
		RANDY DOYLE HAZLETT, <u>Fractal Applications: Wettability and Contact</u> <u>Angle</u> , <i>Journal of Colloid and Interface Science</i> , July 1990, vol. 137, no. 2, 527-533							
		Y. TAMAI et al., Experimental Study of the Relation between Contact Angle and Surface Roughness, The Journal of Physical Chemistry, 1972, vol. 76, no. 22, pp. 3267-3271							
		J. KIJLSTRA et al., Roughness and topology of ultra-hydrophobic surfaces, Colloids and Surfaces, 2002, vol. 206, pp. 521-529							
		SATOSHI SHIBUICHI et al., Super Water-Repellent Surfaces Resulting from Fractal Structure, J. Phys. Chem., 1996, vol. 100, pp. 19512-19517							
		J. BICO et al., <u>Pearl drops</u> , <i>Europhysics Letters</i> , July 15, 1999, vol. 47, no. 2, pp. 220-226							
		H. YILDIRIM ERBIL et al., <u>Transformation of a Simple Plastic into a Superhydrophobic Surface</u> , <i>Science</i> , February 28, 2002, vol. 299, pp. 1377-1380							
,		J.D. MILLER et al., Effect of Roughness as Determined by Atomic Force Microscopy on the Wetting Properties of PTFE Thin Films*, Polymer Engineering and Science, July 1996, vol. 36, no. 14, pp. 1849-1855							
		ATSUSHI HOZUMI et al., <u>Preparation of ultra water-repellent films by</u> microwave plasma-enchanced CVD, Thin Solid Films, 1997, pp. 222-225							
EXAMINER SIGNATURE		DATE CONSIDERED							

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		NON P	ATENT LITE	ERATURE DOCUME	ENTS			
EXAMINER INITIAL*	Cite No. ¹		, journal, serial, sy		icle (when appropriate), title of the the c, page(s), volume-issue number(s), polished			
		BRIAN D. REISS et al., <u>DNA-Directed Assembly of Anisotropic Nanopaticles</u> on Lithographically Defined Surfaces and in Solution, <i>Materials Research</i> Society, 2001, vol. 635, pp.C6.2.1-C6.2.6						
		F.E. BARTELL et al., Surface Roughness as Related to Hysteresis of Contact Angles. I. The System Paraffin-Water-Air, J. Phys. Chem., February 1953, vol. 57, pp. 211-215						
		F.E. BARTELL et al., Surace Roughness as Related to Hysteresis of Contact Angles. II. The Systems Paraffin-3 Molar Calcium Chloride Solution-Air and Paraffin-Glycerol-Air ¹ . J. Phys. Chem., April 1953, vol. 57, pp. 455-463						
		vol. 50, pp. 769-7	75		sics letters, June 15, 2000,			
				Flow in Circular Micro r's Slip Condition, La	ingmuir, 2003, vol. 19, no.			
		on Rough Surface	s, Langmuir,	2003, vol. 19, no. 4, p				
		Using Two-Dimer pp. 8282-8287	nsional Fine F	article Arrays, Langm	nder Diamond Surfaces nuir, 2002, vol. 18, no. 22,			
		J. Electroanal. Ch	<i>iem.</i> , 1993, vo	ol. 353, pp. 209-215	ons on organic electrodes.,			
		of Colloid and Int	erface Scienc	e, June 1, 1977, vol. 6				
		Microscopy. Silic Interface Science,	cone Oil on Po February 197	Contact Angles by Scandished Aluminum, Jo 11, vol. 35, no. 2, pp. 3	urnal of Colloid and 362-364			
		NORMAN R. MORROW, The Effects of Surface Roughness on Contact Angle with Special Reference to Petroleum Recovery, The Journal of Canadian Petroleum, October-December 1975, pp. 42-54						
		PASCALE AUSS 411, pp. 924-896	ILLOUS et al	., Liquid Marbles, Na	ture, June 21, 2001, vol.			
		WEI JIN et al., Wetting Hysteresis at the Molecular Scale, Physical Review Letters, February 24, 1997, vol. 78, no. 8, pp. 1520-1523						
					ening of Polymers on urfaces, 1984, pp.319-331			
EXAMINER SIGNATURE				DATE CONSIDERED				

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	-	1	. SHUTTLEWORTH et al., The Spreading of a Liquid Over a Rough Solid, ebruary 23, 1948, pp. 16-22								
,		J.F. C	F. OLIVER et al., Resistance to Spreading of Liquids by Sharp Edges ¹ , fournal of Colloid and Interface Science, May 1977, vol. 59, no. 3, pp. 568-579								
		Surfa	ices and Colle	oids, May 1, 1	1996, vo	l. 12, no. 9, pj					
		Surfa					nena on Nonplanar 002, vol. 18, no. 4, pp.				
		JOO	NWON KIM				Dramatic Reduction of 2, pp. 479-482				
			10 W Accountance in Brognet Bused Microsimules, 2002, pp. 119								
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